CLAIMS

What is claimed is:

1.   A method for providing a traceable populated printed circuit board, comprising:

loading an identifiable unit in a placement machine;

holding and identifying a circuit board by the placement machine;

populating the circuit board with a component corresponding to the identifiable

unit; and

creating a database associating information about the identifiable unit with

information about the circuit board.

2.   The method of Claim 1, wherein the identifiable unit is a component.

3.   The method of Claim 1, wherein the identifiable unit is a component carrier.

4.   The method of Claim 1, wherein the identifiable unit is a tube.

5.   The method of Claim 4, wherein the tube stores multiple components including

the component corresponding to the identifiable unit.

6.   The method of Claim 1, further comprising identifying the identifiable unit by

the placement machine.

7.   The method of Claim 6, wherein identifying the identifiable unit by the

placement machine occurs before loading the identifiable unit in the placement

machine.

8.   The method of Claim 6, wherein identifying the identifiable unit by the

placement machine occurs after loading the identifiable unit in the placement machine.

9.   The method of Claim 6, wherein identifying the identifiable unit by the placement machine occurs during loading the identifiable unit in the placement machine.

10.   The method of Claim 1, further comprising generating a report from the database.

11.   The method of Claim 10, further comprising sending the report to an end user.

12.   The method of Claim 11, wherein the report is sent over the world wide web.

13.   The method of Claim 1, the circuit board aforementioned being a first circuit board, further comprising, after populating the first circuit board, retrieving a second circuit board to be populated from the identifiable unit.

14.   An apparatus for populating a traceable printed circuit board with traceable components, comprising:

    a placement machine, comprising:

    an identifiable unit loader for loading an identifiable unit;

    a circuit board support for holding a circuit board;

    a placement mechanism for populating the circuit board with a component corresponding to the identifiable unit; and

    a processor with an associated memory for storing information about the identifiable unit and the circuit board in a database.

15.   The apparatus of Claim 14, wherein the component is the identifiable unit.

16.   The apparatus of Claim 14, wherein the component is a component carrier.

17.   The apparatus of Claim 14, wherein the component is a tube.

18.   The apparatus of Claim 14, wherein the identifiable unit is identified by a bar code located on the identifiable unit.

19.   The apparatus of Claim 18, wherein the circuit board is identified by a bar code located on the circuit board.

20.   The apparatus of Claim 14, wherein the circuit board is identified by a bar code located on the circuit board.

21.   The apparatus of Claim 14, wherein the placement machine includes a scanner that identifies the identifiable unit.

22.   The apparatus of Claim 21, wherein the scanner aforementioned is a first scanner, the placement machine including a second scanner for identifying the circuit board.

23.   The apparatus of Claim 21, wherein the scanner also identifies the circuit board.

24.   The apparatus of Claim 21, wherein at least some of the information stored about the identifiable unit is provided by the scanner.

25.   An apparatus for populating a traceable printed circuit board with traceable components, comprising:

      means for receiving and identifying an identifiable unit;

      means for identifying a circuit board;

      means for placing a component corresponding to the identifiable unit onto the circuit board; and

      means for creating a database containing information about the identified identifiable unit and the identified circuit board.

26.   The apparatus of Claim 25, further comprising means for mounting and moving the circuit board.

27.   The apparatus of Claim 25, further comprising means for generating a report from the database.

28.   The apparatus of Claim 27, further comprising displaying the report on a screen on the means for placing a component.

29.   The apparatus of Claim 27, further comprising means for transmitting the report to an end user.

30.   The apparatus of Claim 25, wherein the apparatus is a placement machine.

31.   A method for providing a traceable populated printed circuit board, comprising:

loading a specified component's carrier in a placement machine slot specified by executable code associated with a placement machine;

scanning a barcode of the specified component's carrier;

if the barcode is correct, then determining if there are more component carriers to load;

if there are no more component carriers to load, then scanning a tracer number of a circuit board to be populated; and

creating a database record including information associated with the specified component's carrier and information associated with the circuit board.

32.   The method of Claim 31, further comprising receiving components and entering information about the components in a database prior to loading a specified component's carrier in the placement machine slot.

33.   The method of Claim 32, further comprising attaching bar codes to the components and putting the components in inventory after entering information about the components in a database and before loading a specified component's carrier in the placement machine slot.

34.   The method of Claim 31, further comprising, if the barcode is not correct, providing a component carrier with a correct barcode.

35.   The method of Claim 31, further comprising, if there are more component carriers to load, then loading these component carriers.